

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 99.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-017467**Date Inspected:** 18-Oct-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC)**Location:** Shanghai, China**CWI Name:** Li Yang and Zhu Zhong Hai**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Trial Assembly**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance (QA) Inspector Mr. S. Manjunath Math was present during the time noted above for observations relative to the work being performed.

This QA Inspector randomly observed the following work in progress:

Orthotropic Box Girder (OBG) at Trial Assembly Areas

Segment 10AW to Segment 10BW (Longitudinal Diaphragm to Longitudinal Diaphragm)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the Longitudinal Diaphragm to Longitudinal Diaphragm between Panel Points (PP) 88 and PP 89 for Segment 10AW to Segment 10BW at work point W3, Counter Weight side and work point W4 Cross Beam side. The QA Inspector verified the bolt tension on a random basis and the results appeared to be in general compliance. The Inspection was performed against Notification No. 00513 dated October 18, 2010.

The bolt sizes used were M24 x 70 RC Lot # DHGM240010 and the final torque value established was 560 N-m.

The bolt sizes used were M24 x 95 RC Lot # DHGM240021 and the final torque value established was 540 N-m.

The Manual Torque wrench used was Serial No. XO2-676.

WELDING INSPECTION REPORT

(Continued Page 2 of 5)

Segment 10BW to Segment 10CW (Longitudinal Diaphragm to Longitudinal Diaphragm)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the Longitudinal Diaphragm to Longitudinal Diaphragm between Panel Points (PP) 91 and PP 92 for Segment 10BW to Segment 10CW at work point W3, Counter Weight side and work point W4 Cross Beam side. The QA Inspector verified the bolt tension on a random basis and the results appeared to be in general compliance. The Inspection was performed against Notification No. 00513 dated October 18, 2010.

The bolt sizes used were M24 x 70 RC Lot # DHGM240010 and the final torque value established was 560 N-m.

The bolt sizes used were M24 x 95 RC Lot # DHGM240021 and the final torque value established was 540 N-m.

The Manual Torque wrench used was Serial No. XO2-676. Please reference the pictures attached for more comprehensive details.

Segment 10CW (Side Panel T-Ribs at FL3 location)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the T-Rib to T-Rib at Side Panel Cross Beam side at Panel Points (PP) 93 for Segment 10CW. The QA Inspector verified the bolt tension on a random basis and the results appeared to be in general compliance. The Inspection was performed against Notification No. 00513 dated October 18, 2010. The QA inspector observed reinforced splice plates are installed at following locations.

At PP 93: 19th T-Rib.

Note: T-Ribs numbering reference taken from Work Point E4 towards E6.

The bolt sizes used were M22 x 80 RC Lot # DHGM220094 and the final torque value established was 470 N-m.

The bolt sizes used were M22 x 90 RC Lot # DHGM220048 and the final torque value established was 500 N-m.

The Manual Torque wrench used was Serial No. XO2-776.

Segment 10AW to Segment 10BW (Truss Post and Road Barrier Brackets)

This QA Inspector witnessed the final bolt tension verification on bolts installed at Corner Assembly connecting the Road Barrier Brackets, Inclined Truss Post and Vertical Truss Post at Counter Weight side and Cross Beam side between Panel Points (PP) 88 and PP 89 for Segment 10AW to Segment 10BW. The QA Inspector verified the bolt tension on a random basis and the results appeared to be in general compliance. The Inspection was performed against Notification No. 00513 dated October 18, 2010.

The bolt sizes used were M22 x 55 RC Lot # DHGM220044 and the final torque value established was 473 N-m.

The bolt sizes used were M22 x 85 RC Lot # DHGM220109 and the final torque value established was 350 N-m.

WELDING INSPECTION REPORT

(Continued Page 3 of 5)

The bolt sizes used were M22 x 120 RC Lot # DHGM220053 and the final torque value established was 440 N-m.

The bolt sizes used were M24 x 60 RC Lot # DHGM240014 and the final torque value established was 567 N-m.

The bolt sizes used were M24 x 65 RC Lot # DHGM240002 and the final torque value established was 573 N-m.

The bolt sizes used were M24 x 80 RC Lot # DHGM240011 and the final torque value established was 533 N-m.

The Manual Torque wrench used was Serial No. XO2-779.

Segment 10BW to Segment 10CW (Truss Post and Road Barrier Brackets)

This QA Inspector witnessed the final bolt tension verification on bolts installed at Corner Assembly connecting the Road Barrier Brackets, Inclined Truss Post and Vertical Truss Post at Counter Weight side and Cross Beam side between Panel Points (PP) 91 and PP 92 for Segment 10BW to Segment 10CW. The QA Inspector verified the bolt tension on a random basis and the results appeared to be in general compliance. The Inspection was performed against Notification No. 00513 dated October 18, 2010.

The bolt sizes used were M22 x 55 RC Lot # DHGM220044 and the final torque value established was 473 N-m.

The bolt sizes used were M22 x 85 RC Lot # DHGM220109 and the final torque value established was 350 N-m.

The bolt sizes used were M22 x 120 RC Lot # DHGM220053 and the final torque value established was 440 N-m.

The bolt sizes used were M24 x 60 RC Lot # DHGM240014 and the final torque value established was 567 N-m.

The bolt sizes used were M24 x 65 RC Lot # DHGM240002 and the final torque value established was 573 N-m.

The bolt sizes used were M24 x 80 RC Lot # DHGM240011 and the final torque value established was 533 N-m.

The Manual Torque wrench used was Serial No. XO2-779.

Segment 10AE to Segment 10BE (U-Rib to U-Rib)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the U-Rib to U-Rib at the transverse splice between Panel Points (PP) 88 and PP 89 for Segment 10AE to Segment 10BE. The QA Inspector verified the bolt tension on a random basis and the results appeared to be in general compliance. The Inspection was performed against Notification No. 00514 dated October 18, 2010 at the following U-Ribs.

4th U-Rib, 5th U-Rib, 24th U-Rib, 25th U-Rib, 26th U-Rib, 27th U-Rib, 29th U-Rib, 30th U-Rib, 31st U-Rib, 32nd U-Rib and 38th U-Rib.

The bolt sizes used were M22 x 70 RC Lot # DHGM220022 and the final torque value established was 487 N-m.

WELDING INSPECTION REPORT

(Continued Page 4 of 5)

The Manual Torque wrench used was Serial No. XO2-666. Please reference the pictures attached for more comprehensive details.

Segment 10AW

This QA Inspector observed the repair welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as Seg059E-036. The welder identification was 066038 and observed welding in the 3G (Vertical) position using approved Welding Procedure Specification WPS-345-SMAW-3G(3F)-FCM-Repair-1. The piece mark was identified as Corner Assembly, X3S stiffeners. ZPMC performed repair welding in accordance with B-CWR-2004.

Segment 10AW

This QA Inspector observed the repair welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as Seg059E-037 and Seg059E-038. The welder identification was 066038 and observed welding in the 4G (Overhead) position using approved Welding Procedure Specification WPS-345-SMAW-4G(4F)-FCM-Repair-1. The piece mark was identified as Corner Assembly, X3S stiffeners. ZPMC performed repair welding in accordance with B-CWR-20004.

Segment 10CW

This QA Inspector observed the repair welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as Seg063E-170. The welder identification was 045296 and observed welding in the 3G (Vertical) position using approved Welding Procedure Specification WPS-345-SMAW-3G(3F)-FCM-Repair-1. The piece mark was identified as Corner Assembly, X3S stiffeners. ZPMC performed repair welding in accordance with B-CWR-2000. Please reference the pictures attached for more comprehensive details.

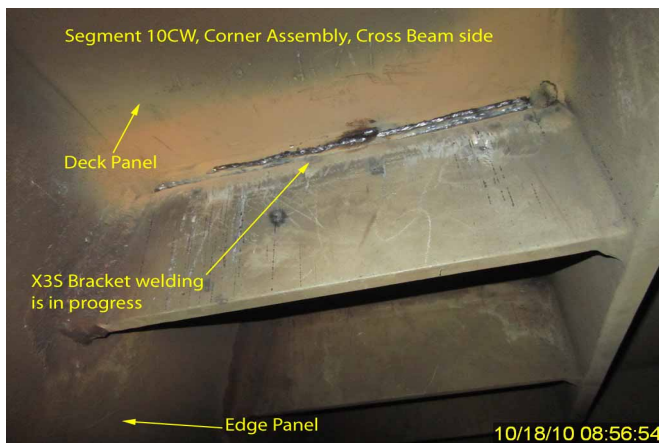
Segment 10CW

This QA Inspector observed the repair welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as Seg063E-171 and Seg063E-172. The welder identification was 045296 and observed welding in the 4G (Overhead) position using approved Welding Procedure Specification WPS-345-SMAW-4G(4F)-FCM-Repair-1. The piece mark was identified as Corner Assembly, X3S stiffeners. ZPMC performed repair welding in accordance with B-CWR-2000.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

WELDING INSPECTION REPORT

(Continued Page 5 of 5)



Summary of Conversations:

No relevant conversations were reported on this date.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang 150000422372, who represents the Office of Structural Materials for your project.

Inspected By: Math,Manjunath

Quality Assurance Inspector

Reviewed By: Peterson,Art

QA Reviewer